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Trade Liberalization in Agricultural Sector: A Vehicle for Mending Nigeria's Broken Economic Wall

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Abstract

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1. Introduction

Economic theory states that countries of the world are plagued with a relative scarcity of resources needed for the production of goods and services to satisfy human want. Countries trade with each other because trading typically makes a country better off in terms of development and since each country's endowment are not same coupled with other differences such as that of technical knowhow, difference in level of industrialization, difference in climatic condition, the quantity and quality of labour and a host of others, hence it is difficult for countries of the world to operate in autarky which thus calls for liberalization of trading activities across borders.

Trade in agriculture has not only attracted growing attention but is being viewed as the vehicle for global growth and equity. By expanding markets and removing distortions caused by high levels of protection in agriculture, global trade will not only facilitate competition but spur growth in an area that is linked directly to poverty and hunger. Based on this premise, this paper examines the impact of trade liberalization on Nigerian agricultural productivity as a vehicle for mending Nigeria's broken economic wall with specific focus on its impact on Nigeria agricultural export sub-sector using secondary data for the period 1984-2022 which were sourced from National Bureau of Statistics (NBS), Central Bank of Nigeria (CBN) statistical bulletin and World Bank World Development Indicators. The data collected were analyzed using Ordinary Least Square Method. From the findings, it was revealed that an inverse relationship exists between Nigerian agricultural performance and agricultural degree of openness and thus led to decrease in its contribution to GDP in the country. Based on this, it was suggested, inter alia, that government should reactivate commodity board in a more dynamically committed way, develop a vibrant research unit and strengthen the existing ones.

Trade liberalization is a market oriented economic reform which started in many developing countries in early 1980s and intensified in the 1990s (John and Bright, 2016). Trade liberalization is the process of reducing or removing restriction on international trade. This may include the reduction or removal of tariffs, abolition or enlargement of import quota, abolition of multiple exchange rates which permeate the international trade cycle, and removal of requirements for administrative permits for imports or allocations of foreign exchange. Thus, it can summarily be seen as the reduction and removal of export restrictions and creating an easy access to the trading partners (Muhammad and Akanegbu, 2015). The main motive of trade liberalization is to allow for the theory of comparative cost advantage to take its full realization by the country exporting the goods and services they can produce best while they import those they produce less efficiently. Nigeria as an agrarian economy is endowed with a lot of fertile land needed for increased productivity which serves as other source of income for both the government and the country's inhabitant at large apart from oil. The country is thus being geared towards liberalization of agriculture which became more pronounced during the Uruguay round of 1986-1990 (Anowor, Ukweni and Martins, 2013).

Until recently, researches on the impact of trade liberalization of agricultural sector on economic growth in Nigeria are not considered a prioritized matter of discourse. However, today, as a result of its being viewed as the vehicle for global growth and equity the topic had gained increasing momentum over the years. By expanding markets and by removing distortions caused by high levels of protection in agriculture, global trade is believed will not only facilitate competition but spur growth in an area that is linked directly to poverty and hunger (Jhingan, 2012, Muhammad, Neelam, and Muhammad, 2018). But the question that comes to mind is; will the citizens stick to exportation of excess production and importation of what we cannot produce efficiently? Will the inhabitants of the country not still import what the country is still producing in higher quantity? Will the infant industries have the capacity to compete favourably with the international companies? Of what effect then will trade liberalization be on the nation's economic progress? These and many more are questions which beckon for answers and validation of trade liberalization as a policy against trade restriction.

It should be noted that prior to the discovery of oil in commercial quantity in Nigeria, agricultural sector has been the main driving force of the Nigerian economy, providing food and employment for the populace, raw materials for industrial sector and generating the bulk of the government revenue and foreign exchange earnings with a positive effect on other sector. In 1960, agricultural sector accounted for 70% of GDP and employment generation as well as 90% of the foreign exchange (Bashir and Abubakar, 2018). However, the oil boom of the 1970s transformed Nigeria from a relatively prosperous agrarian economy to major exporter of petroleum products. The discovery of oil then led to a rapid expansion of urban biased activities which almost brings about the neglect of the agricultural development by policy makers making the sector to slip into decline (Afolabi, Danladi and Azeez, 2017; Ejike, Anah and Onwuchekwa, 2018; Bashir and Abubakar, 2018; Lioudis, 2019) and its contribution to the nation's GDP then comes below that of oil sector (Statista, 2023).

On the reverse case, there was a slump in the price of petroleum product in the early 1980s and this greatly affected the nation's GDP and export earnings. Government of the country even used a huge amount of the revenue from other sources to subsidize the price of petrol in Nigeria which of recent its removal causes hardship for the citizen. In a bid to ameliorate the aforementioned problem, Nigerian government under different administrations embarked on various as strategies aimed at boosting economic growth and reducing poverty by diversifying the economic base of the country away from oil all of which has not produced the desired result. Notable ones among these polices were Operation feed the Nation of 1976, Green Revolution of 1980, Import Substitution Industrialization Strategy (ISI) which aimed at domestic production of imported goods, Export Promotion Strategy that encouraged export and increased domestic production and a host of others (Adeagbo, 2018); yet the expected desire results have not been met.

Nigeria still relies on oil production for about two-third of government earnings and 90% of its foreign exchange income, this was substantiated by the real growth of the oil sector which was 12.11% year-on-year in the fourth quarter of 2023 (Premium Times, Feb. 2024) making oil revenue to be responsible for about 10% of the GDP (Premium Times, 2024).

The dismal performance of the agricultural sector in terms of its contribution to Nigeria annual revenue in the last few decades prompted government to initiate several agricultural schemes of which trade liberalization and trade restriction were prominent. However, the trade liberalization became pronounced in Nigeria in 1986 when the country adopted the IMF Structural Adjusted Programme (SAP) with its primary aim of restructuring and diversifying the productive base to the economy (Oyejide, 2003). In addition, SAP was introduced to reduce the nation's over reliance on crude oil (due to the collapse in oil price in the world market), establish a realistic and sustainable exchange rate for the Naira through trade and payment liberalization, tariff reforms, commercialization and privatization of public enterprise (Oyejide, 1990).

With the introduction of the trade liberalization policies scholars have continued to research on its impact in respect of different sectors of the economy on economic growth with no unique standpoint. The non-agreement has been compounded especially with the role of trade restriction as a form of protection to infant industry through its potential to create employment for the teaming population of the country through transformation of infant industries to formidable ones and the defect of openness of the social, economic and political situation of the country. Scholars among whom are Muhammad and Akanegbu (2015) and Onuaguluchi (2014) asserted that the successes of all the various agricultural programmes, including trade liberalization, have been minimal hence the country has not been able to achieve a sustained rate of growth in the agriculture sector. For instance, despite the introduction of trade liberalization, agricultural sector was reported to have recorded an abysmal growth of 1.9% in three quarters of 2023, falling far below industry and service sectors (This Day, 2024). Oyaniyan (2020) in a contradictory view of the above submissions declared that trade liberalization can help to raise production efficiency in agriculture, allowing improvement in dietary diversity and increasing access to food and as well reduce volatility of food prices through diversify sources of supply. David-Wayas (2014) on his own advocated for trade restriction as he is of the opinion that erecting restrictions on trade will protect infant industries against all forms of competitions abroad and thus serves as a major factor for economic development. The controversy of opinion thus constitutes a problem for researcher and beckons for verification to shed more light on what policy makers should do and take a stand.

Based on the above premise with the controversial stance as enunciated, this study sets to investigate the effect of trade liberalization with respect to Nigeria's agricultural sector from 1984 to 2022. However, the specific objective of this study is to examine the impact of trade liberalization on Nigerian agricultural productivity and to determine its impact on Nigerian agricultural export sub-sector as a

vehicle for mending Nigeria's broken economic wall.

2. Literature review

Before the colonial era, rural Nigeria had a fairly complex organization which were predominantly peasant communities producing a variety of commodities mostly to satisfy their needs with little surpluses for exchange with other communities. Trading among the various communities was broadly based on barter terms and agriculture involved the production of food crops for subsistence. The coming of the Colonialists introduced a money economy which provides incentives for the peasant farmers to produce more cash crops for sale and eventually export the excess to Western Europe.

Export production account for about 57% of Nigeria's Gross Domestic Product (GDP) in 1929 oil palm product alone accounted for between 85% and 90% of the total volume of exports during the same period. The growth of the Nigerian agricultural sector was however not smooth. The period between 1929 and 1945 was a difficult one for the export sector. The great depression of the 1930 was marked by fluctuations in prices. These disturbances continued till end of the war. Although the volume of Nigeria's export commodities increased during this time the value did not increase proportionately to the volume

In addition, since Nigeria independence, the role of agriculture in the economy has been on the downward trend especially its contribution to GDP. It shares to GDP fell from 61.50% in 1963/64 to 14.63 in 1983 with a slight increase to 25.08% in 2017. In 2018 it rises a little bit to 25.13% but fell to 21.91% at the end of 2019. The share of the contribution picked up slightly in 2020 to 24.45% but since then it returned to its downward trend as 24.17% and 23.69% in years 2021 and 2022 respectively (CBN, Statistical Bulletin, National Bureau of Statistics, 2022). This situation has been partly due to the poor performance of the agricultural sector. However, in spite of the challenges facing the agricultural sector, it has remained a resilient sustainer of the economy and the Nigerian people in terms food supply, employment national income generation and industrialization.

Given these enormous challenges facing the agricultural sector, Nigeria has continuously been unable to achieve food self-sufficiency and food security. Consequently, she spends about \$3billion on annual food importation while the sector subsists on subsistence scale, riddled with low productivity and poor return to investment. According to Audu Ogbe as reported in the Vanguard news on 27th August 2018, Nigeria spends \$22bn annually on food importation. Between 2015 and 2019 Nigeria spends #334.3b to import food stuffs, tobacco and other agricultural product, the value of food imports in 2022 stood at #464.45b while the country spends #40trn on food importations in 21 years (https://dailytrust.com). It was also reported that the value of raw material imports stood at #9540.93b in the third quarter of 2023 while Vanguard news of 30th August 2023 also reports that government efforts fail as food imports rise by 122%. A combination of many policy strategies (monetary, fiscal, etc.) has been used to encourage local production and discourage importation of food commodities but the policies were unable to yield expected result due to the inconsistency and non-transparency in their implementations.

2.1 Why Trade Liberalization

There have been controversies among scholars as to whether trade liberalization is detrimental or beneficial to the economy of a nation. According the protagonist, trade liberalization is to economic integration for global output expansion, in that, with market liberalization, investment fund can move unimpeded from industrialized countries to developing countries where they are most needed. They are of the view that it is beneficial to consumer in form of cheaper products because reduced tariffs as a result of trade liberalization will make goods produced from hi-tech industrialized countries cheaper to buy by the consumers in developing trading countries. In the same vein, the protagonist submits that producer of goods gains by selling to a wider market while countries will benefit by gaining access to modern technology, negotiate for multilateral and/or bilateral trade (Ayodamola, 1997).

The antagonists, on the other hand argue that trade liberalization is a conscious effort by the western world to extend their colonial rule and to deliberately force some of their economic policies that may not be favourable to the receiving economy with the aim of perpetually contributing to the under development of the less developing countries. It is seen by this group of scholars as another form of post-colonialism strategy which does not promote self-reliance, self-determination and indigenization (Ojoh, 2005). They also argued that the success of most developed nation is through protectionism (especially on infant industries) and subsidies and not because of free trade (Ha-Joon, 2007). It is on this submission that they defined trade liberalization as the integration toward unified economic system dominated by supra-national countries and institutions that are not accountable to democratic process or national government (Richard, 2000).

Trade liberalization has also been seen as the cause of growing inequalities of wealth, technology and decreasing opportunities both in home and the international community with the perception that environmental, social and cultural problems have been aggravated by the workings of free trade economy (Aja, 1996). Considering the antagonists' argument, where do we now tilt to? The above scenario thus throws the argument inconclusive which calls for this study.

2.2 Empirical Review of Related Works

Trade liberalization and agricultural sector issues has attracted scholars across nations. In the

foreign scene, Nirodha, Jaime and Jeff (2013) investigated the effect of trade liberalization on agricultural production growth in Sri Lanka from 1960 to 2010 using multiple regression models to examine whether the trade policy reforms increase the agriculture sector growth or not. Their finding revealed that trade liberalization improves the growth of agricultural sector and eventually leads to improved agricultural productivity. It further revealed that trade openness; investment, interest rate and free trade agreements are significant factors and have positive relations with the growth of agricultural sector.

Adams and Sayed (1998) used survey data to examine the operations of the agrarian credit market under conditions of economic liberalization and Islamization in Sudan. The study specifies and estimates a model of farm household participation in the credit market. Their findings revealed the need for enhanced institutional financial intermediation in the agrarian credit market as well as the need for promotion of savings and credit associations among farmer

In the Nigerian context, Akanni, Adeokun and Akintola (2008) examined the effect of trade liberalization on agricultural export between 1990 and 1998. They observed that the policy had tremendous effect on the level and value of exports in agricultural sub-sector. Findings revealed that a regression analysis relating the total value of agricultural produce and the aggregated domestic prices and other relevant parameters of four commodities accounted for between 65 and 87 percent of the variability in income from the foreign sector of Nigeria agricultural commodity trade under the period reviewed.

Olowe and Ibraheem (2015) also examined the impact of trade liberalization on the growth of the Nigerian economy between 1970 and 2012 using both descriptive and econometric analysis techniques. The study uses trade openness dummy variable for nature of regime of administration in Nigeria at a particular period, exchange rate and dummy variable for structural adjustment programme (SAP) periods. From there findings, it was revealed that trade liberalization has not improved the growth of the Nigerian economy significantly.

Similar to Olowe and Ibrahim (2015) is the study of Echekoba, Okonkwo and Adigwe (2015) who explored the relationship between trade liberalization and economic growth in Nigeria using data spanning through 1971-2012. The data so collected were analyzed using Ordinary Least square estimation technique. Their findings revealed that imports and exports significantly and positively affect economic growth in Nigeria. Based on this it was concluded that trade liberalization is good for the Nigerian economy which contradicts Olowe and Ibrahim's (2015) findings.

Furthermore, John and Bright (2016) explores the relationship between trade liberalization and economic growth in Nigeria for the period 1980-2013 using Vector Error Correction Model. Their findings revealed that openness of foreign sector and trade liberalization have positive significant effect on both industrial performance and economic growth in Nigeria. The study did not extend to the current scenario and also the study failed to incorporate the term of trade variable in its model hence the need for further studies.

Using a different approach to the study of John and Bright (2016), Aisha (2016) examined the nexus between trade liberalization and economic growth in Nigeria using different approach of Ordinary Least Squares and Moving Average techniques of data analysis. Findings revealed that trade liberalization of agricultural sector have significant positive effect on Nigeria economic growth.

In another related study, Ojeyinka and Adegboye (2017) examined the impact of trade liberalization on performance of agricultural and manufacturing sectors in the Nigerian economy. The data obtained were analyzed using Generalized Method of Moment analytical technique with simultaneous models developed to capture the joint effect of the two sectors. Their findings revealed that trade liberalization has a positive significant effect on the output of agricultural sector while it presents a negative and significant effect on manufacturing output in the country. The study failed to consider the role of foreign investment in agriculture as well as term of trade in its model. These variables are germane in international trade cycle.

Sani and Yunusa (2019) assessed impact of trade liberalization of agricultural sector on economic growth in Nigeria from 1981 to 2016 using data from CBN statistical bulletin, NBS book of abstract and WDI data. Series of analytical tools were employed which includes unit root test, causality test, cointegration test and vector error correction tests, all to validate the results of the findings. It was revealed that trade liberalization and appreciation of the exchange rate exert positive impact on real economic growth in Nigeria. The study failed to incorporate the ratio of export to import, an ineligible factor in open trade, into its model.

Akpan, Anwana and Etim (2023) examined the short and long run relationship between trade agricultural liberalization and export performance in Nigeria using data spanning 1999 to 2020 with time series analysis. The result showed a mixed result with agricultural degree of agricultural openness, export, national agricultural productivity and agricultural capital formation which were among the included explanatory having a positive and significant impact of the nation's economy while agricultural imports and exchange rate produce a negative but significant effect on the nation's economy

Agada, Ugodu and Ochoche (2023) assessed the effect of trade liberalization on output of selected agricultural products in Nigeria between 1986 and 2020. Secondary data sourced from Central Bank of Nigeria, National Bureau of Statistics as well as Food and agricultural Organization and World Bank Data Base were employed using Augmented Dickey-Fuller, Unit root and Vector Error Correction Model. The study revealed that trade liberalization increases outputs of the selected studied crops and thus affirm that it is healthy for agricultural sector in Nigeria. However, it should be noted that the study only focused on four selected food crops at the expense of the country's aggregate output. The study failed into take cognizance the country's importations in its model, which is an important variable, thus neglecting the aspect of terms of trade neither thus it takes into consideration Capital Formation in Agricultural Sector as well as Foreign Investment in Agriculture all of which are important variables in trade liberalization policy.

A critical examination of the reviewed literature portrays no specific standpoint in the various findings as revealed in the controversial findings this therefore calls for further studies hence the need for this study which covers the identified lapses and as well expand the scope using the current available data.

2.3 Theoretical Framework

No trade theory has been claimed as been superior to the other because they all have their strong and weak points. However, this study adopted the theories that support free trade and technology transfer. These theories are the classical theory of absolute advantages which is championed by Adam Smith (1776) and the comparative advantage theory attributed to David Ricardo (1817).

In 1776, Adams Smith questioned the Mercantilist assumption that trade was a zerosum game. He discusses the benefit a country can achieve in trade through the theory he proposed. He suggested that a country should specialize and export those goods that it can produce more cheaply than any other country and import those good it can obtain at lower cost than it could produce them at home. According to Smith all nations would gain simultaneously if they practiced free trade and specialized according to their absolute advantage, thus bringing about global efficiency and increased output. In essence, trade under this condition of specialization will improve allocation of resources, ensuring that goods are produced with few resources. The result will be a large total quantity of goods produced in the world.

As a corollary to the above, David Ricardo (1817) brings a kind of reformation to Smith's theory with his introduction of comparative advantages theory. He began by noting that Adams Smith idea of absolute advantage determined the pattern of trade and production internal to a country when factors of production were perfectly mobile. He then asked what would happen if one country had absolute advantages in the production of both goods. In this case Ricardo posited that countries should specialize where they have their greatest absolute advantages (if they have an absolute advantage in both goods) or in their least absolute disadvantage (if they have an absolute advantage in neither good). This is what he termed law of comparative advantage Ricardo thus opined that a country can produce and export a particular commodity in which it has comparative advantage, while importing a commodity in which it has comparative disadvantage and thereby maximize its welfare. Such specialization and trade make both trading partners better off by expanding their consumption opportunity sets. Residents can choose and consume various combinations of goods both produced at home and those that would even be impossible to produce domestically (Yarbrough and Yarbrough, 1994). As a corollary of these theories therefore this study would examine the impact of trade liberalization on agricultural sector in Nigeria by adopting the aforementioned theories. The study incorporates agricultural exports and imports as well as degree of trade openness into the model which supports Richardo's opinion, either we have comparative advantage or disadvantage, the need for open trade is advocated hence the linkage of this study to the theory.

3. Methodology

This study adopts the use of secondary data for the period 1984-2022 which were sourced from National Bureau of Statistics, Central Bank of Nigeria statistical bulletin and World Bank World Development Indicators. The choice of the period was due to the claim by Oyejide (2003) that the trade liberalization became pronounced in Nigeria in 1986; hence the scope captured the likely period of trade liberalization before its pronouncement and the existing period. The models below were thus formulated for testing.

Model 1

This model is specified in order to test the first objective of the study with variables that captures the aim, thus we have:

$$AGP = f(DOP, CAF, P_X/P_M, REXR, FIA)$$
 1

where

 P_X/P_M = Agricultural export and import price AGP = Agricultural Productivity in Nigeria ratio (which is proxy by contribution of agriculture to REXR = Real Exchange Rate GDP) FIA = Foreign Investment in Agriculture DOP = Degree of Openness in Agricultural Sector The econometric transformation of the above CAF = Capital Formation in Agricultural Sector model is thus given below:

$$AGP_{t} = \beta_{0} + \beta_{1}DOP_{t} + \beta_{2}CAF_{t} + \beta_{3}(Px/Pm)_{t} + \beta_{4}REXR_{t} + \beta_{5}FIA_{t} + \mu_{t}$$

Transforming the above into log-linear we have

$$lnAGP_{t} = \beta_{0} + \beta_{1}lnDOP_{t} + \beta_{2}lnCAF_{t} + \beta_{3}(Px/Pm)_{t} + \beta_{4}REXR_{t} + \beta_{5}lnFIA_{t} + \mu_{t}$$
On a priori $\beta_{0} - \beta_{6} > 0$

Model 2

In order to capture the second objective of the study the equation stated below was specified for estimation

$$AGX = f (DOP, CAF, P_X/P_M, REXR, FIA) 4$$

where AGX = Agricultural Export Sub-sector (proxy by volume of agricultural export), DOP = Degree of Openness in Agricultural Sector, CAF = Capital Formation in Agricultural Sector, P_X/P_M = Agricultural export and import price ratio, REXR = Real Exchange Rate, FIA = Foreign Investment in Agriculture. Transforming equation 4 into econometric form we have

$$AGX_{t} = \alpha_{0} + \alpha_{1}DOP_{t} + \alpha_{2}CAF_{t} + \alpha_{3} (Px/Pm)_{t} + \alpha_{4} REXR_{t} + \alpha_{5} FIA_{t} + \mu_{t}$$

Transforming equation 5 into log-linear form we have

$$lnAGX_{t} = \alpha_{0} + \alpha_{1}lnDOP_{t} + \alpha_{2}lnCAF_{t} + \alpha_{3}(Px/Pm)_{t} + \alpha_{4}REXR_{t} + \alpha_{5}lnFIA_{t} + \mu_{t} = 6$$

On a priori $\alpha_0 - \alpha_5 > 0$

4. Results

This section presents the analysis of data collected for the estimation of the models specified in the methodology using Ordinary Least Square (OLS) method of estimation and Eview 9 econometric software. The result of the estimation was presented in the Table 1 below. From the above result, it was revealed that there exists an inverse relationship between Nigerian Agricultural performance and the Agricultural Degree of Openness (DOP). From the result, 1% -point increase in DOP will lead to about 66% decrease in the contribution of agriculture to GDP in Nigeria and it is significant even at 1% significant level. This is in contradiction with the economic postulation which argues that economic openness brings about expansion, reduces cost of production which reduces the level of import, increases export and domestic production. Although the a priori expectation is that an increase in degree of openness will lead to an increase in domestic performance, the contrary is the case given the result obtained from the analysis which depicts that Nigeria import more than she exports with trade openness.

As regard Agricultural Capital Formation (CAF) a 1%-point increase in it will bring about 20% increase in AGP and is also significant at 10% level of significant thus increasing the contribution of the sector to GDP in Nigeria. The result here conforms to our a priori expectation which is in consonance with the protagonist who believed that technology enhances domestic production but with this result the low contribution seems not to be an enough justification considering the huge amount expended on the sector by the government.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.056	0.755	6.732	0.001
LOG(DOP)	-0.659	0.087	-8.984	0.001
LOG(CAF)	0.203	0.089	1.781	0.064
Px/Pm	0.401	0.114	3.482	0.002
REXR	0.003	0.002	1.348	0.157
LOG(FIA)	0.249	0.076	3.745	0.007
R-squared	0.801	Mean de	oendent var	3.202
Adjusted R-squared	0.768	S.D. dependent var		5.624
S.E. of regression	4.325	Akaike info criterion		4.098
Sum squared resid	468.9	Schwarz criterion		5.158
Log likelihood	-103.3	Hannan-Quinn criter.		6.004
F-statistic	311.3	Durbin-Watson stat		1.043
Prob(F-statistic)	0.000			

Table1: Model 1 - Dependent Variable: AGP

Source: Author's computation 2024 using E-view 9

On the ratio of prices of export to that of import (P_X/P_M) , a unit increase on the ratio of export to import prices will bring about 40% increase in AGP and its significant at 5%. This shows that on the average export prices is greater than import prices and the result also revealed a favourable commodity term of trade. Comparing the result here with that of DOP, there seems to be a form of conformity that indicated that the volume of import is greater than the volume of export and the ratio of export to import prices (P_X/P_M) result revealed that Nigeria export prices is greater than import prices. Hence it is not an overstatement to state that Nigeria imports more because the import prices are cheaper than export prices.

Considering the Real Exchange Rate (REXR), the result revealed that a unit increase in the REXR will lead to about 0.3% increase on Nigeria Agricultural Productivity (AGP) and this conform to the a priori expectation. As for the Foreign Investment on Agriculture (FIA), a 1%-point increase in FIA will lead to about 25% increase on AGP. This implies that an increase in FIA increases the Nigerian Agricultural

Productivity and this conforms to a priori expectation and also holds ground in Nigeria economy.

The R^2 and Adjusted R^2 which is the goodness of fit of the model depict the values of 80.1% and 76.8% respectively. By implication, it means that the variables employed accounted for about 80% variation of contribution of agriculture to GDP in Nigeria while other variables omitted in the model (i.e. the error term) accounted for about 20%. The Durbin Watson Statistics value of 1.04 shows the absence of serial correlation in the model. This is because the result falls within the range of (4-d) $< d < d_L$. The associated F-statistics value is 311.3 with p-value of 0.000 which is statistically significant. Hence the explanatory power of the model is high and the model has a good fit. The values for model selection criteria for Akaike, Schwarz and Hannan-Quinn of 4.0, 5.1 and 6.0 respectively show that the model selection was good.

In order to ensure the reliability of the result for policy-oriented recommendation, more robustness tests were carried out the result of which are presented below:

Variable	ADF	1% critical	5% critical	10% critical	Order of
		value	value	value	integration
AGP	-3.978**	3.633	2.948	2.613	I(1)
DOP	-3.695**	3.633	2.948	2.613	I(1)
ACF	-2.953**	3.633	2.948	2.613	I(1)
Px/Pm	-3.070**	3.633	2.948	2.613	I(1)
REXR	-3.578**	3.633	2.948	2.613	I(1)
FIA	-2.997**	3.633	2.948	2.613	I(1)

Table 2: Unit Root Test Results

***denotes significant at 1%, ** denotes significant at 5%,

* denotes significant at 10%. Source: Author's Computation, 2024.

The unit root test is carried out with intercept specifications for the respective series since it is a single variable and it is also the default that comes with the E-view. The lag-selection was based on the default selection of the Newey-West Bandwidth (NWB). The table contains the Augmented Dickey-Fuller (ADF) test statistic at levels and intercept of the time series with the null hypothesis which states that there is no unit root. All variables are stationary at first difference of integration in this case we say that the variables are cointegrated.

The unit root test result from the ADF method based on 1% significant level shows the orders of integration of the variables, being stationary at first difference order of integration. In particular, the stationarity of the general unit

root process for the set of time series data for the variables shows that they are all significant at 5% and thus the null hypothesis of unit root in the data can be upheld. The study also presents the analysis of the data collected for estimation of the second specified model using OLS method. This is presented in table 3 below:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	6.011	0.561	12.132	0.001
LOG(DOP)	0.259	0.051	5.984	0.000
LOG(CAF)	0.001	0.004	1.191	0.264
Px/Pm	0.109	0.074	1.482	0.122
REXR	0.005	0.002	0.548	0.657
LOG(FIA)	0.131	0.060	2.745	0.017
R-squared	0.801	Mean dependent var		3.110
Adjusted R-squared	0.762	S.D. dependent var		4.424
S.E. of regression	4.775	Akaike info criterion		5.038
Sum squared resid	448.9	Schwarz criterion		4.188
Log likelihood	-113.3	Hannan-Quinn criter.		6.554
F-statistic	35.63	Durbin-W	atson stat	1.343
Prob(F-statistic)	0.000			

Table 3: Model 2 - Dependent Variable: AGX

Source: Author's computation using E-view 9

From the regression result presented above, it was revealed that there exists a positive relationship between Nigerian Agricultural Export Performance (AGX) and the Agricultural Degree of Openness (DOP). From the result, 1%point increase in DOP will lead to about 25.9% increase in the Nigerian Agricultural Export Performance and it is significant even at 1% significant level. The result is thus in tandem with the a priori expectation. Also, the result is in conformity with Roberto, Norman and Linda's (2009) theoretical postulation that economic openness brings about expansion, reduces cost of production which reduces the level of import, increases export and domestic production. Therefore, it is expected theoretically that an increase in degree of openness will lead to increase in domestic performance inform of increase productivity for increase exportation which is expected to lead to increase earnings inform of revenue/GDP on the part of government.

As regard Agricultural Capital Formation (CAF) a 1%-point increase in it will bring about 0.1% increase in AGX and is also not significant even at 10% level of significant. The result here, though conforms to our a priori expectation which is in consonance with the protagonist who believed that technology enhances domestic production, the low contribution seems not to be an enough justification considering the huge amount expended on the sector by the government.

On the ratio of prices of export to that of import (Px/Pm), a unit increase on the ratio of export to import prices will bring about 10.1%

increases in AGX but it is not significant. This shows that on the average export prices is greater than import prices and the result also revealed a favourable commodity term of trade. Comparing the result here with that of DOP, we will discover that there is no conformity between the two and that the volume of import is greater than the volume of export.

Considering the Real Exchange Rate (REXR), the result revealed that a unit increase in the REXR will lead to about 0.5% increase on Nigeria Agricultural Export Performance (AGX) and this conform to the a priori expectation. However, the contribution is very low and the result is not even significance.

As for the Foreign Investment on Agriculture (FIA), a 1%- point increase in FIA will lead to about 13.1% increase on AGX. This implies that an increase in FIA increases the Nigerian Agricultural Export Performance and this conforms to a priori expectation which also holds ground in Nigeria economy.

The R² and Adjusted R² which is the goodness of fit of the model depict the values of 80.1% and 76.2% respectively. By implication, it means that the variables employed accounted for about 80% variation of contribution of agriculture to GDP in Nigeria while other variables omitted in the model (i.e. the error term) accounted for about 20%. The Durbin Watson Statistics value of 1.34 shows the absence of serial correlation in the model. This is because the result falls within the range of (4-d) $< d < d_L$.

The associated F-statistics value is 35.6 with p-value of 0.000 which is statistically significant. Hence the explanatory power of the model is high and the model has a good fit. The values for model selection criteria for Akaike, Schwarz and Hannan-Quinn of 5.0, 4.2 and 6.6 respectively show that the model selection was good.

In order to ensure the reliability of the result for policy-oriented recommendation, more robustness tests were carried out the result of which are presented below:

Variable	ADF	1% critical value	5% critical value	10% critical value	Order of integration
AGX	-3.408**	4.893	3.349	2.785	I(1)
DOP	-4.995**	4.893	3.349	2.785	I(1)
ACF	-4.953**	4.893	3.349	2.785	I(1)
Px/Pm	-5.070**	4.893	3.349	2.785	I(1)
REXR	-3.578**	4.893	3.349	2.785	I(1)
FIA	-4.997**	4.893	3.349	2.785	I(1)

Table 4: Unit Root Test Results

***denotes significant at 1%, ** denotes significant at 5%,

* denotes significant at 10%. Source: Author's Computation, 2024.

The unit root test is carried out with intercept specifications for the respective series since it is a single variable and it is also the default that comes with the E-view. The lag-selection was based on the default selection of the Newey-West Bandwidth (NWB). The table contains the Augmented Dickey-Fuller (ADF) test statistic at levels and intercept of the time series with the null hypothesis which states that there is no unit root.

The unit root test result from the ADF method based on 1% significant level shows the orders of integration of the variables, being stationary at first difference order of integration.

In particular, the stationarity of the general unit root process for the set of time series data for the variables shows that they are all significant at 5% and thus the null hypothesis of unit root in the data can be upheld. In this case we say that the variables are cointegrated and there exist a long run relationship between the variables.

5. Conclusion and Recommendations

Nigeria economy has been experiencing set back in her quest to develop beyond the period of colonization despite opening her economy to liberalization. This might not be unconnected to the structure of Nigeria economy. In addition, poor governance marred with high corruption level and other institutional weakness can also be said to have played a prime role in the stunted growth experienced by the economy. Findings revealed that there exists an inverse relationship between Nigerian Agricultural performance and the Agricultural Degree of Openness (DOP) and even lead to decrease in its contribution to GDP in the country. Conclusively therefore trade liberalization has not positively contributed to the nation's growth and this conform to Olowe and Ibrahim's (2015) finding. The result also the antagonists conforms to of trade liberalization's argument as enunciated by Ha-Joon (2007) that the success of most developed nation is through protectionism (especially on infant industries) and subsidies and not because of free trade.

Given the findings and conclusion drawn there-from, this study thereby recommends that the government should return to commodity board again in a more dynamic and committed way and it should be spread across all communities with their head and sub-head offices at the local, state and federal government. Although this measure has been used in the past and dropped, the performance of the export subsector then is even better than with trade openness, it should just be used with improved commitment. In addition, the government should develop a vibrant research unit as well as strengthen the existing ones to determine the agricultural produce the country can produce and specialize in. Furthermore, the government should resuscitate agricultural development banks that will make fund available to farmers. This should be established in rural communities as well with easy condition of loan taken.

The federal government should also regulate domestic prices of agricultural products and the importation of manufactured goods especially the ones that can be produced at home so as to protect and promote local producers. Finally, the federal government should make available requisite infrastructural facilities that will encourage graduate farmers to practice. This will bring about improved output, improved exportation and reduced importation of raw materials.

References

- Adam, B. E. and Sayed, A. A. (1998). Agricultural credit under economic liberalization and Islamization in Sudan. African Economic Research Consortium publishers, Regal Press Limited, Kenya.
- Adeagbo, M. O. (2018). Improved agricultural development: An imperative for revamping the Nigerian economy. *Review in Social Sciences*, 16(1).
- Adubi, A., and Okunmadewa, D. (1999). Price, exchange rate volatility and Nigeria's agricultural trade flows: A dynamic analysis. *African Economic Research Consortium, Special Paper 87, Nairobi: Initiative publishers.*
- Afolabi, B., Danladi, J. D., and Azeez, M. I. (2017). International trade and economic growth in Nigeria. *Global Journal of Human-Social Science: Economics*, 17(5), 29-39.
- Agada, J. T., Ugodu, D. P., and Ochoche, C. O. (2023). Journal of Agripreneureship and Sustainable Development, 6(4).

- Aja, A. A. (1996). *The Theory of Marxism*. Data-Globe publishing company, Nigeria.
- Aisha, U. Y. (2016). Assessment of trade liberalization of agricultural sector as a tool of economic growth in Nigeria. Unpublished Final Year Project Submitted to the Department of Economics UMYU.
- Akanni, K. A., Adeokun, O. A., and Akintola, J. O. (2008). The effects of trade liberalization policy on Nigerian Agricultural Export. *Research report 55, International Food Policy Institute.*
- Akpan, O. D., Anwana, E., and Etim, S. M. (2023). Determinants of agricultural exports and trade liberalization in Nigeria. *Proceedings of the 1st Faculty of Agriculture International Conference, Nnamdi Azikwe University, Awka, Nigeria.*
- Ani, I. A., and Yunusa, A. A. (2019). Impact of trade liberalization of agricultural sector on economic growth in Nigeria: An empirical investigate on. *East African Scholars Journal of Psychology and Behavioural Sciences*, 1(1).
- Anowor, O. F., Ukweni, N. O., and Martins, I. (2013). The impact of trade liberalization on Nigeria agricultural sector. *Journal of Economics and Sustainable Development*, 4(8), 14-22.
- Ayodamola, A. (1997). Gains from Trade and Opportunities to Developing Countries. Vreage Publishers Nigeria.
- Bashir, U. F., and Abubakar, S. I. (2018). Impact of oil price volatility on macroeconomic variables in Nigeria 1970-2015. UMYU Journal of Economics and Development, 1(1), 105-111.
- CBN (2022) Central Bank of Nigeria Statistical Bulletin.
- David-Wayas, O. M. (2014). Empirical analysis of trade barriers and economic growth in Nigeria. *Innovare Journal of Social Sciences*, 2(4), 1-6.
- Echekoba, F. N., Okonkwo, V. I., and Adigwe, P. K. (2015). Trade liberalization and

economic growth: The Nigerian experience (1971-2012). *Journal of Poverty, Investment and Development*, 14(5), 20-35.

- Ejike, D. C., Anah, S. A., and Onwuchekwa, F. C. (2018). Trade liberalization and economic growth in Nigeria: A cointegration analysis (1980-2015). *IJRO-Journal of Business Management*, 4(5), 81-94.
- Emma, A. and Nzewi, C. (2008). An empirical study of World Bank agricultural development programme Nigeria. in American Journal Social of and Management Sciences.
- Ha-Joon, C. (2007). Bad Samaritans-Rich Nations, Poor Policies and the Threat to Developing World. Random House Business Books, London.
- Jhingan, M. L. (2012). The Economic of Development and Planning - 40th Edition. Vrinda Publications Limited, Delhi.
- John, O. A. and Bright, O. O. (2016). Effect of trade liberalization on economic development in Nigeria (1980-2013). *International Journal of Developing and Emerging Economies*, 4(2), 15-27.
- Lioudis, N. K. (2019). The importance of diversification. https://www.investopedia.com/investing /importance-diversification.
- Muhammad, M. Y. and Akanegbu, B. N. (2015). The impact of international trade on economic growth in Nigeria: 1981 – 2102. European Journal of Business, economics and Accountancy, 3(6), 56-68.
- Muhammad, Q., Neelam, Y., and Muhammad, A. B. (2018). The impact of trade liberalization on economic growth: A case study of Pakistan. *Journal of Economics and Sustainable Development*, 9(9), 30-41.
- National Bureau of Statistics (2022). Nigerian Gross domestic Product Report.
- Nirodha, D. S., Jaime, M., and Jeff, J. (2013). Trade liberalization effects on agricultural production growth: the case of Sri Lanka, *Selected Paper prepared for presentation at*

the Southern Agricultural Economics Association (SAEA) Annual meeting, Orlando, Florida.

- Ojoh, F. (2005). International Economics and Public Issues. Cheedal Publishers, Nigeria.
- Olowe, T. S., and Ibraheem, A. G. (2015). Impact of trade liberalization on the growth of the Nigerian economy 1970-2012. Journal of Research in Business and Management, 3 (10), 1-7.
- Ojeyinka, T. A., and Adegboye, A. A. (2017). Trade liberalization and economic performance in Nigeria: Evidence from agricultural and manufacturing sectors. *African Journal of Economic Review*, 5(3), 1-14.
- Onuaguluchi, I. A. (2014). The impact of food importation on food production: The case of rice importation and production. A Project Submitted to the Department of Economics, University of Nigeria, Nsukka.
- Oyejide, T. A. (1990). Supply response in the context of structural adjustment in Sub-Saharan Africa. AERC Special Paper 1 *Nairobi Initiatives Publishers*.
- Oyejide, T. A. (2003). Trade reform for economic growth and poverty reduction. *World Bank Development Outreach.*

Premium Times Nigeria (Feb. 22nd, 2024). Growth in Nigeria GDP. www.premiumtimesng.com

- Richard, W. (2000). The Concept of Trade Liberalization: A Challenging Policy to Developing Economies. Faladenco Publishers, Owerri.
- Roberto, C., Norman, V. L., and Linda, K. (2009). Openness can be good for growth: The role of policy complementarities. *Journal of Development Economics, 90*(1), 33-49.
- Statista (2023). Nigeria: Agriculture Contribution to GDP 2019 -2021. https://www.statista.com/statistics/1195608/ contribution-of-agriculture-to-gdp-innigeria/ accessed on 13th April, 2024.
- This Day Live (Jan, 2nd 2024). 2023: Year of sluggish growth for agricultural sector, https://www.thisdaylive.com.
- Vanguard (30th August, 2023). Government efforts failing as food import rises 122%.
- Yarbrough, B., and Yarbrough, R. (1994). *The World Economy, Trade and Finance (3rd Ed.).* USA: The Dryden press Harcourt brace college publisher.